

## CLAIMES

1. An apparatus for detecting biological information comprising:

5 a contact member arranged to come into contact with a subject of biological information;

a biological information detecting member provided in the contact member and detects the biological information from the subject; and

10 an amplifier connected to the biological information detecting member and amplifies a biological signal corresponding to the detected biological information,

wherein a sum of a resistance between the biological information detecting member and the amplifier, and an  
15 impedance between the subject in contact with the contact member and the biological information detecting member, is not more than 1/100 of an input impedance in the amplifier.

2. The apparatus for detecting biological information  
20 according to claim 1, wherein a sum of a resistance between the biological information detecting member and the amplifier, and an impedance between the subject in contact with the contact member and the biological information detecting member, is not more than 10 k $\Omega$ .

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3. The apparatus for detecting biological information according to claim 1 or 2, wherein a resistance between the

biological information detecting member and the amplifier is not more than 1/200 of an input impedance in the amplifier.

4. The apparatus for detecting biological information  
5 according to any one of claims 1 to 3, wherein a resistance between the biological information detecting member and the amplifier is not more than 5 k $\Omega$ .

5. The apparatus for detecting biological information  
10 according to any one of claims 1 to 4, wherein the biological information detecting member comprises a material having a volume resistivity of not more than 25  $\Omega$ cm.

6. The apparatus for detecting biological information  
15 according to any one of claims 1 to 5, wherein the biological information detecting member comprises a material containing at least one of silver, nickel, gold, palladium, carbon, and carbon nanotube.

20 7. The apparatus for detecting biological information according to any one of claims 1 to 5, wherein the biological information detecting member comprises a material containing at least one of metal oxide, which is transparent and has electrical conductivity, and polymer, which is transparent  
25 and has electrical conductivity.

8. The apparatus for detecting biological information

according to any one of claims 1 to 7, wherein an impedance between the subject in contact with the contact member and the biological information detecting member is not more than 1/200 of an input impedance in the amplifier.

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9. The apparatus for detecting biological information according to any one of claims 1 to 8, wherein an impedance between the subject in contact with the contact member and the biological information detecting member is not more than

10 5 k $\Omega$ .

10. The apparatus for detecting biological information according to any one of claims 1 to 9, wherein an area of the biological information detecting member is set so that an area  
15 of contact with the subject is not less than 2 cm<sup>2</sup> for each place.

11. The apparatus for detecting biological information according to any one of claims 1 to 10, wherein the contact  
20 member comprises a controller used for at least one of an automobile, a ship, and an airplane.

12. The apparatus for detecting biological information according to any one of claims 1 to 11, wherein the contact  
25 member comprises a controller, used for controlling at least one of an automobile, a ship, and an airplane, and an auxiliary contact piece, constituted to assist a subject controlling

at least one of the automobile, the ship, and the airplane using the controller when the subject comes into contact with the auxiliary contact piece.

5 13. The apparatus for detecting biological information according to claim 12, wherein in the case in which said apparatus for detecting biological information is provided in the automobile, the auxiliary contact piece is at least one of a side brake piece, an armrest piece, and a shift lever  
10 piece.

14. The apparatus for detecting biological information according to claim 12 or 13, wherein one of the biological information detecting members provided in the controller, and  
15 one of the biological information detecting members provided in the auxiliary contact piece, are connected.

15. The apparatus for detecting biological information according to claim 12 or 13, wherein the amplifier amplifies  
20 the biological signal detected by one of the biological information detecting member provided in the controller, and the biological information detecting members provided in the auxiliary contact piece, with which the subject is in contact.

25 16. The apparatus for detecting biological information according to any one of claims 12 to 15, wherein in the case in which the amplifier amplifies the biological signals from

the biological information detecting member of two lines, the amplifier amplifies the biological signal, which is detected when the subject comes into contact with the biological information detecting member provided in the controller of one of two lines, and the biological signal, which is detected by one of the biological information detecting member provided in the controller of another one line of two lines and the biological information detecting member provided in the auxiliary contact piece of said another one of two lines, with which the subject is in contact.

17. The apparatus for detecting biological information according to any one of claims 1 to 16, wherein the biological information detecting member comprises a conductive resin layer provided in the contact member.

18. A contact member that is used as the contact member included in the apparatus for detecting biological information according to any one of claims 1 to 17, wherein the biological information detecting member has a resistance of not more than 5 k $\Omega$ .

19. The contact member according to claim 18, wherein the biological information detecting member comprises a material having a volume resistivity of not more than 25  $\Omega$ cm.

20. The contact member according to claim 18 or 19, wherein the biological information detecting member comprises a material containing at least one of silver, nickel, gold, palladium, carbon, and carbon nanotube.

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21. The contact member according to claim 18 or 19, wherein the biological information detecting member comprises a material containing at least one of metal oxide, which is transparent and has electrical conductivity, and polymer,  
10 which is transparent and has electrical conductivity.

22. The contact member according to any one of claims 18 to 21, wherein an area of the biological information detecting member is set such that an area of contact with the subject  
15 is not less than 2 cm<sup>2</sup> for each place.

23. The contact member according to any one of claims 18 to 22, wherein the contact member comprises a controller used for at least one of an automobile, a ship, and an airplane.

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24. The contact member according to any one of claims 18 to 23, wherein the contact member comprises a controller, which is used for controlling at least one of an automobile, a ship, and an airplane, and an auxiliary contact piece, which is  
25 constituted to assist a subject controlling at least one of the automobile, the ship, and the airplane using the controller when the subject comes into contact with the auxiliary contact

piece.

25. The contact member according to claim 24, wherein in the case in which the contact member is provided in the automobile, the auxiliary contact piece is at least one of  
5 a side brake piece, an armrest piece, and a shift lever piece.

26. The contact member according to claim 24 or 25, wherein the biological information detecting member provided in the  
10 controller and the biological information detecting member provided in the auxiliary contact piece are connected.

27. The contact member according to any one of claims 18 to 26, wherein the biological information detecting member  
15 comprises a conductive resin layer provided in the contact member.

28. A paint for a biological information detecting member that constitutes a detecting member for detecting biological  
20 information from a subject, wherein

the paint for a biological information detecting member comprises a conductive material having a volume resistivity of not more than 25  $\Omega$ cm, epoxy resin, and a curing agent.

25 29. The paint for a biological information detecting member according to claim 28, wherein the conductive material comprises at least one of silver, nickel, gold, palladium,

carbon, and carbon nanotube.

30. The paint for a biological information detecting member  
according to claim 28, wherein the conductive material  
5 comprises least one of metal oxide, which is transparent and  
has electrical conductivity, and polymer, which is transparent  
and has electrical conductivity.